

odontoid bone and of the second centrum are deeply emarginate inferiorly, terminating in two diverging tubercular processes exactly as in *Chelys*.

11. Notes on *Emys blandingii*.

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(Plate L.)

Two specimens, male and female, of the American *Emys* (*E. blandingii*, Holbr.) are now exhibited in the Society's Menagerie, and I have availed myself of the opportunity for examining the question of the validity of this species, which has recently been contested, and for supplementing the only description which has ever been given, viz. that of Holbrook in 1842. Subsequent American authors, Leconte, Agassiz, Cope, &c., have dropped Holbrook's name in favour of Shaw's *meleagris*. But on referring to Shaw's description and figure, and judging by the coloration of the head, I am inclined to identify *Testudo meleagris* with the European *Emys orbicularis*. The reason which, no doubt, led to the identification with *E. blandingii* is Shaw's indication of the habitat "America." However, the fact that Shaw, a few years later, referred *T. meleagris* to the synonymy of *T. europæa* (*orbicularis*), shows that the author himself did not believe in the accuracy of that indication.

Emys blandingii is a rare Tortoise in European collections. It is represented in the British Museum by a skeleton of an adult female (referred by Gray to his *Lutremys europæa*), of unknown origin. A second specimen, a male skeleton, from Lake St. Clair, Canada, has been communicated to me by M. Lataste. The material upon which these notes are based consists therefore of four specimens—two live adults and two adult skeletons.

Emys blandingii is very closely allied to its European congener. The structure of the shell, apart from a somewhat more elongate shape in the adult of the American species, affords no distinctive characters. The colour of the shell is slightly different, owing to the larger size of the yellowish-brown spots on the carapace, and the large blackish blotches on the outer side of each of the plastral shields; Holbrook's figure affords an excellent representation of the adult shells before me. The limbs also are extremely similar to those of the European species, with the exception, perhaps, that the interdigital webs are a trifle shorter. But the head and tail show important differences. The interorbital space is considerably narrower, and the postorbital part of the head much longer; the mandible is longer, and its symphyseal part narrower; the width of the symphysis is one sixth of the length of the mandible in *E. blandingii*, and one fourth in *E. orbicularis*. The tail is shorter,

its length (from the extremity of the plastron) being contained twice and two thirds in the length of the shell in the adult male, and four times in the adult female; in the quite young, figured by Agassiz, about once and a half. In the adult male of *E. orbicularis* the length of the tail is contained about once and a half in the length of the shell, in the female twice to twice and one fourth; in the quite young, tail and shell are of equal length. I count 27 caudal vertebræ in the skeleton of *E. blandingii* (adult female) in the Museum, and 31 in a skeleton of a female *E. orbicularis*.

Other differences are to be found in the coloration of the head, the lower jaw and throat being of a uniform yellow colour, contrasting with the dark brown of the upper jaw; and in the colour of the iris. This is of a bronzy brown in the female and reddish brown in the male. Similar sexual variations in the colour of the iris are known to occur in *Cistudo carolina*. In the newly-born *Emys orbicularis* the iris is of a uniform dark brown; as the animal advances in age small round yellow spots, similar to those on the sides of the head, appear on the iris, and gradually increase in size until, in the adult, the iris is principally, or even entirely, yellow.

A few words as to the habits, so far as I have been able to observe from the two specimens lent me by the Society, and which I kept for a couple of weeks in company with specimens of the European species. Holbrook says, "It is known to be a land animal, and found about the meadows and prairies of the West." I am not able to confirm the statement that it is terrestrial. The Society's specimens go to the water, though less readily than their European congeners; they dive and feed in the water. When disturbed on land they usually seek shelter by withdrawing into the shell, as do Land-Tortoises; whilst *E. orbicularis*, under similar circumstances, makes for the water. When handled, the timid *E. blandingii* nearly always retires into the shell, whilst even fresh-caught specimens of *E. orbicularis* seldom do so.

To conclude, it may be observed that, though belonging unquestionably to the same group as *E. orbicularis*, *E. blandingii* shows in some of its characters, shorter tail and coloration of the iris, as well as in its less aquatic habits, a certain approach to its American allies of the terrestrial genus *Cistudo*.

EXPLANATION OF PLATE L.

- Fig. 1. *Emys blandingii*, Holbr.
 1 a. Head of male, side view.
 1 b. Ditto, upper view.
 1 c. Ditto, lower view.
 1 d. Head of female, side view.
 1 e. Skull of female, upper view.
 1 f. Ditto, side view.
 1 g. Mandible, lower view.
- Fig. 2. *Emys orbicularis*.
 2 a. Head of male, side view.
 2 b. Ditto, upper view.
 2 c. Ditto, lower view.
 2 e. Skull of female, upper view.
 2 f. Ditto, side view.
 2 g. Mandible, lower view.